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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/509,868

08/16/2005

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Q83993

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23373 7590 06/03/2008  
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EXAMINER

KNABLE, GEOFFREY L

ART UNIT

PAPER NUMBER

1791

MAIL DATE

DELIVERY MODE

06/03/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

**Application No.**

10/509,868

**Applicant(s)**

EZAWA, NAOFUMI

**Examiner**

Geoffrey L. Knable

**Art Unit**

1791

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12 March 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SI/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 09-272308 or JP 10-297209 taken in view of JP 2001-260609, JP 2614441 and Taguchi et al. (US 2002/0134480) and optionally further in view of at least one of [GB 2072576 or Connell et al. (US 2,575,249)].

These references are applied for the same reasons as set forth in the last office action. With respect to new claim 4, JP '308 (paragraphs [0023]-[0024] of the machine translation) and JP '209 (esp. paragraphs [0006] and [0010] of the machine translation) both suggest that the carcass and the two intermediate layers can be natural rubber based.

3. Applicant's arguments filed 3/12/2008 (with respect to the prior art rejections) have been fully considered but they are not persuasive. The previous 35 USC 112 rejections have however been withdrawn in view of applicant's response.

With respect to the prior art rejection, it is argued that JP '308 and JP '209 fail to disclose the claimed relationship between the amount of sulfur in the various layers. It is agreed that these references do not place particular limits on the amount of sulfur compounded into the various layers (although it is noted that the machine translation for JP '209 seems to suggest that the amount of sulfur in the rubber layer "B" (corresponding to the claimed rubber layer "A") be desirably lower than that of the rubber layer "A" (corresponding to the claimed rubber layer "B") consistent with the claims - see paragraph [0007]). It however was considered obvious to select relative

sulfur amounts consistent with the present claims with expected and predictable advantageous results in view of the cited secondary references.

With respect to JP '609, it is argued that it shows a single layer between the carcass and innerliner rather than two rubber layers. While not disputed, JP '609 is, like the primary references, directed to use of an intermediate layer between the carcass and innerliner and teaches the importance of carefully selecting the relative sulfur contents in the adjacent layers and therefore is again considered to have been instructive to the ordinary artisan in selecting suitable and effective amounts thereof. In particular, again, JP '609 suggests that to ensure sufficient adhesion between plies, the sulfur content in the intermediate layer adjacent the carcass should be less than or equal to that in the carcass ply and greater than that in the adjacent layer - e.g. paragraphs [0019], [0025]-[0029]. This would suggest to the artisan the desirability of providing a gradation in sulfur contents from the carcass ply inward in order to in part minimize the "shift" or migration tendency of sulfur from the carcass towards the adjacent layers. Such migration concerns would have been expected to predictably impact selection of the amount of sulfur in the intermediate layer(s) whether there is one or more than one such layer and applicant has not convincingly argued otherwise. It is also generally argued that the other secondary references fail to suggest the claimed relationship between sulfur amounts in the various layers. These references, like JP '609, however are still considered to have evidenced the knowledge and skill of the ordinary artisan in selecting appropriate compounding for an intermediate layer(s) between a carcass and innerliner and would have motivated the artisan to select sulfur

amounts consistent with the claims for predictable and expected advantageous results for the reasons detailed in the last office action. Applicant has not specifically or convincingly argued otherwise.

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Geoffrey L. Knable whose telephone number is 571-272-1220. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on 571-272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1791

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Geoffrey L. Knable/  
Primary Examiner, Art Unit 1791

G. Knable  
May 28, 2008